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Soil Conservation

MARCH 1965
VOL. XXX NO. 8

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TECHNOLOGY & SCIENCE

A PLACE FOR WILDLIFE:

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APPEAL TO YOUTH:

Outdoor Laboratories—Pages 185, 187
Conservation Camps—Pages 175, 189

SOIL CONSERVATION SERVICE • U. S. DEPARTMENT OF AGRICULTURE

MARCH 1965
VOL. XXX, NO. 8

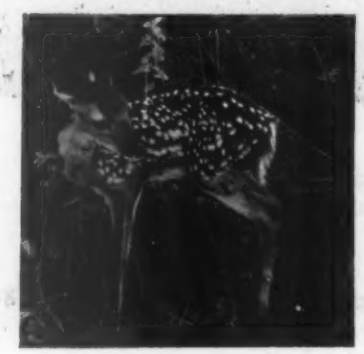
Soil Conservation

Answers . . .

It's the policy of SCS to staff with whatever kind of technical specialists are needed to give the best answers to resource problems in each area of activity. So it was that we employed a fish management biologist to find ways to provide for anadromous fish in the small watershed projects of the Pacific Northwest. Biologist Dean Marriage reports (p. 171) on early successes there in cooperation with game and fish agencies. Similar joint action is being sought on wildlife problems peculiar to other sections of the country.

Trend: Increasing attention to resource education creates a demand for places where teachers and pupils can study living things in natural outdoor settings. More and more schools are meeting this need by providing outdoor laboratories on their own grounds. A trend toward larger building sites is reported (p. 187) by the American Association of School Administrators, and reflected in increasing requests to SCS for assistance in planning them. Conservation camps (p. 175 and 189) and other activities aid in instructing young people in resource needs and care.

Cover: A fawn against a background of grass in the Upper Nueces-Frio Soil Conservation District of Texas symbolizes the combination of wildlife and range conservation that is making game an important economic resource on the private rangeland of the Nation.



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ORVILLE L. FREEMAN — Secretary of Agriculture
JOHN A. BAKER — Assistant Secretary of Agriculture
DONALD A. WILLIAMS — Administrator, Soil Conservation Service

Prepared in the Division of Information, Soil Conservation Service.

Editor
BEN O. OSBORN

Editorial Assistant
GEORGIE A. KELLER

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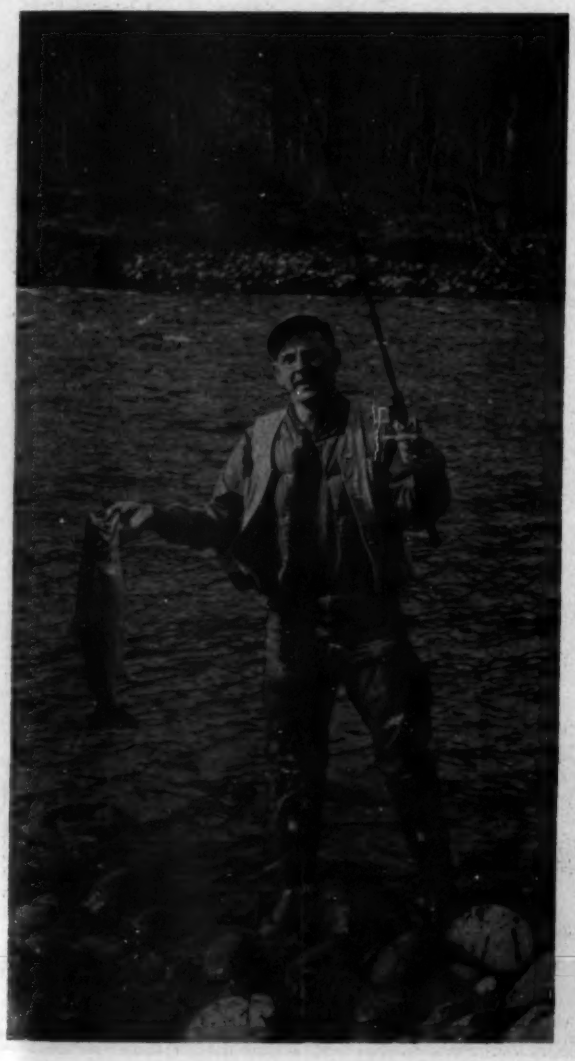
Hope for Salmon and Steelhead

Small watershed structures provide for passage of migratory fish

By L. Dean Marriage
Fish Management Biologist, SCS Regional Technical Service Center, Portland, Oreg.



SALMON and steelhead trout—easily the most prized and profitable fish for both sport and commercial fishermen on the Pacific Coast—present challenging problems to the watershed planner.

Both species need both salt water and fresh water to complete a successful life cycle. This means they need unobstructed passage from stream to ocean and from ocean to stream.

Floodwater retarding structures and other dams on salmon and steelhead streams in the Northwest need special designs and extra facilities to insure the survival of these fish. The Soil Conservation Service, working with State and Federal fishery agencies, is helping local communities provide for fish habitat requirements in their watershed project plans.

It's not just a matter of sentiment—sport and commercial fishermen harvest hundreds of thousands of these anadromous (migratory) fish annually from both ocean and stream.

It is in the early planning stages of a watershed project that the fishery resources and factors limiting fish production need to be defined. Then, plans for resolving problems and exploiting opportunities can be devised to the satisfaction of fishery agencies and the local sponsors.

Clean, Cool Water

Salmon and steelhead trout spawn in clean gravel beds of cool, fresh-water streams. Their progeny spend up to 2 years in fresh water after hatching, then migrate to the Pacific Ocean where they grow to adulthood in 1 to several years. Then they return to their parent streams to repeat the process.

The distance from the ocean to the spawning beds varies from a few to hundreds of miles, depending on the species of fish. Salmon die after spawning,

Steelhead trout, favorite of northwestern sport fishermen, must have free passage from the sea to upstream spawning grounds to survive (photo courtesy of Oregon State Game Commission).

but steelhead trout may return in subsequent years to spawn several times.

Because of the migratory habits of both adults and juveniles, routes to and from spawning and rearing areas within a watershed must be unobstructed if fish populations are to be perpetuated or increased. Structural measures in watershed projects need to be designed to accommodate the migratory fish.

Examples of Planning

An example of such planning is the Skipanon River Watershed Project in Clatsop County near Warrenton, Oreg. Here a tidewater barrier was to be constructed to protect agricultural land from flooding. This could have spelled trouble for spawning salmon and steelhead trout. Through cooperative efforts of the watershed project sponsors, the State and Federal fish and game departments, and the SCS, a barn-door tide gate was designed and installed on one of the three barrel inlets in the barrier to allow adult silver salmon, sea-run cutthroat trout, and steelhead trout to pass through.

Farther up the Skipanon River, two more water-control structures were equipped with pool-type fish ladders to permit easy access to upstream spawning grounds.

In the Central Sonoma Water-

The chinook salmon, mainstay of commercial fishermen, also is a migratory species (Photo courtesy of Fish Commission of Oregon.)

Adult steelhead trout going up Santa Rosa Creek pass under the City of Santa Rosa, Calif., through one of these 1,500-foot long, 14-foot square box culverts in the specially designed fishway on the right.

The 8x10-foot barn-door type gate on the right barrel of this flood-control structure in the Skipanon River Watershed Project permits migratory fish to reach upstream spawning ground.

shed Project at Santa Rosa, Calif., proposed flood-control measures on Santa Rosa Creek presented several fishery challenges. Each was met by special provisions in the structural plans.

Adult steelhead trout now move safely upstream through a 1,500-foot fish passageway 4 feet wide and 3 feet deep contained in one of two 14-foot-square box culverts that carry Santa Rosa Creek under the city.

In the manmade channel below the fishway, boulders 3 to 5 feet in diameter were grouted into the bottom to give migrating fish natural resting areas where they could escape the high velocities of the stream.

Other Measures

Farther upstream a six-pool vertical slot fishway was constructed at a complex diversion structure.

Other accommodations being considered for anadromous fish in Pacific Coast watershed projects include:

A minimum pool in an irrigation reservoir for rearing juvenile salmon and steelhead trout.

Low-flow weirs in a streambed to create more suitable habitat for fish during periods of low water.

Metered release of water from storage reservoirs to supplement low summer streamflow.

Screening juvenile fish from pumps and diversion canals.

Release of water from the lower levels of reservoirs to keep downstream water cool.

A fish passageway through the principal spillway of a flood control-irrigation reservoir.

Thus the challenge of perpetuating salmon and steelhead trout and developing fishery potentials is being met in small watershed projects in the Pacific Coast States. ♦

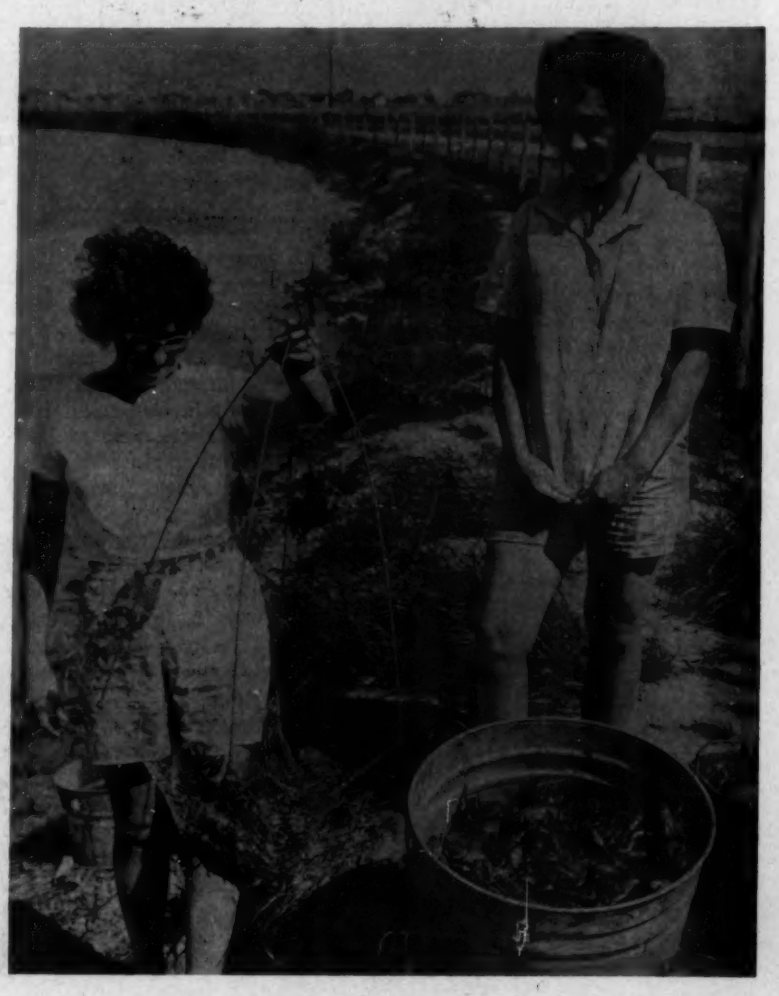
Riceland Wildlife Habitat

Farmers make feeding grounds for waterfowl, grow fish and crawfish in rotations

By Carl H. Thomas
Biologist, SCS, Alexandria, La.

RICELANDS of southwest Louisiana are a wildlife paradise. Following a crop of rice the land can be managed for ducks, geese, snipe, crawfish, or channel catfish. A 1-year rice, 1-year fallow, or a 1-year rice, 2-year fallow rotation is the most common system.

Ricelands offer a variety of alternatives to the wildlife conserva-



Housewives pay 10 cents a pound for crawfish they harvest from a rice farmer's field in Acadia Parish Soil Conservation District, La.

A concentration of wild ducks, principally mallards, in midwinter testifies to the rich food supply provided by a Gulf Coast Soil Conservation District cooperator's ricefield after harvest.

tionist. Soil Conservation Service technicians assist the soil and water conservation districts of Louisiana's rice belt in helping landowners plan ahead for multiple use that benefits both the rice crop and the wildlife habitat.

Diet of Rice

About 90 percent of the food chosen by mallard ducks feeding in three southwest Louisiana parishes consists of rice and seeds of plants associated with rice growing.

Alton Lyons of Jefferson Davis Parish, cooperating with the Gulf Coast Soil and Water Conservation District, manages his riceland for ducks. He puts from 1 to 12 inches of water on the rice stubble following harvest. The ducks feed on waste rice and weed seeds that amount to as much as 175 pounds an acre on his fields.

Fields that have been out of rice production for 1 year and allowed to grow native vegetation provide an average of 328 pounds of good duck food an acre. These fields, too, are flooded in the winter.

Snipe Feeding Areas

Ricefields make excellent snipe feeding areas when properly prepared. The rice stubble is chopped or disked lightly following the rice harvest. The field then is saturated with water, but not flooded. This "wet" condition is maintained throughout the winter months, using the existing rice irrigation system. These ground conditions support growth of insect larvae, crustaceans, and earthworms—choice snipe foods. Over 100 snipe have been flushed from a 30-acre field managed in this manner.

Crawfish, a popular food in south Louisiana, are being produced on ricefields through management of water and vegetation. Up to 1,000 pounds of crawfish an acre have been harvested.

The red swamp crawfish occurs naturally on most southwest Louisiana ricefields. Roland Faulk, a rice farmer in the Acadia Soil and Water Conservation District, floods a portion of his fields following rice harvest to a depth of 6 to 18 inches. This depth of water is held over into the following spring. The baby crawfish, hatched in October, feed on the rice stubble and straw during the winter and respond with quick growth in early spring. Harvest of crawfish usually begins in late February or early March.

Richard Walker, a rice farmer in Allen Parish, hatched baby channel catfish in a farm hatchery and stocked 15,000 in one field and 20,000 in another last year. He is harvesting the fish this winter. ♦

Soil Classification Wins Award for Smith

The new soil classification that SCS began using January 1 earned the 1964 Soil Science Achievement Award of the American Society of Agronomy for its principal author, Dr. Guy D. Smith, director of the Soil Survey Investigations Division.

The system was described in an article in the December issue of *Soil Conservation*. ♦

Youth Conservation Camp

Boys learn about Arizona's resources and have the time of their lives

By Danny Freeman
Area Conservationist, SCS, Prescott, Ariz.

EACH year about 50 boys from throughout Arizona are picked for what is to many of them a highlight of their young lives: A week at the annual Youth Conservation Camp.

Sponsors of the camp are the Arizona Agricultural Extension Service, the Soil Conservation Division of the State Land Department, and the Arizona Association of Soil Conservation Districts.

Their objective is to arouse normal curiosity of youth and develop appreciation and understanding of Arizona's natural resources. Boys are shown what is being done to conserve soil, water, ranges, watersheds, forests, wildlife, and historical sites in the State.

The camp's location is shifted each year. The first year, 1962, it was at beautiful Point of Pines, a remote spot northeast of Globe on the big San Carlos Apache Indian Reservation. The following year, camp was at the Boy Scout R-Bar-C Ranch in the dense ponderosa pine area of the Tonto National Forest east of Payson.

Camp Moves Around

In 1964 activities were at another Boy Scout camp near Safford, Snow Flat, which is up 8,000 feet near the top of Mount Graham in Coronado National Forest.

Location of the camp determines how activities will be conducted, particularly in the planning of nature hikes and field trips. For example, Point of Pines is near a group of old Indian ruins. It serves as an outdoor classroom in archæology. Dr. Emil Haury of the University of Arizona, a noted anthropologist, reviewed the findings of scientists and showed campers items they otherwise would have missed in the ruins.

Boys Become Friends

The camp is open to Arizona boys from 15 to 21 years old—regardless of race, color, or creed. Living, working, playing, and learning together create close friendships among the boys, although most are strangers when they arrive at camp. A case in point: Indian and white boys quickly become friends—an interesting development when you consider that many of the Indian ancestors were at war with Arizona settlers only three generations ago.

Intermingling of youths from all parts of the State promotes exchange of ideas, experiences, and new knowledge about the communities represented.

Barry N. Freeman, University of Arizona Extension Watershed specialist who directs the camp, is credited with much of its success. The boys like and respect him because discipline is firm but fair. No "horsing around" or "goofing off" allowed!

Instructors are specialists in various fields of conservation who know how to teach young people. They represent the Soil Conserva-

Phil Young of the SCS explains to a group of boys how soil texture differs in different soils.

Type of terrain and cover make a difference in the water that runs off, Young explains.

Four boys learn how to use an engineering level at the Arizona camp.

tion Service, Forest Service, Fish and Wildlife Service, Bureau of Land Management, Bureau of Indian Affairs, University of Arizona, Arizona Game and Fish Department, the State Land Department, and some private organizations, plus industry, farming, ranching, and other vocations.

What They Learn

Principal subjects covered are water, soil, timber, wildlife, range, and recreation. Water—considered the most precious of Arizona's resources—is pictured as the limiting factor in growth and progress of Arizona. The boys are taught how management of watersheds and use of water affect growth and well-being of the State.

The boys learn what proper range management is and how to identify plants. They learn why it is necessary in arid Arizona to protect and conserve forage plants so they can multiply and flourish to provide feed for livestock, game animals, and wild birds.

Soil is given high priority at the camp. Phil Young, SCS technician from Tucson, has been at all three camps. With help of test tube and sod, he gets his message across graphically: Ground cover reduces runoff and erosion and increases water going into the ground for plant use and replenishment of underground water.

Timber resources are covered in the camp curriculum, too: Planting, thinning, pruning, and logging are observed in the forest.

Recreation is shown as an activity that fits nicely with timber. Where trees are found, scenery is usually pleasant and the recreation seeker finds beautiful surroundings when he goes hiking, horseback riding, camping, picnicking, or swimming.

Along with these practical aspects of conservation, the boys learn esthetic values and wholesome living.

Scholarships Help

Scholarships and contributions from the State Soil Conservation District Association ($500 a year) and local conservation districts pay for everything except the time and expense of the instructors. The latter costs are borne by the instructors' employers.

Scholarships of $25 each are furnished from an ever-growing list of backers: Individual conservation districts, service clubs, banks, livestock organizations, 4-H leader associations, FFA chapters, Arizona chapter of the Soil Conservation Society of America, Arizona section of the American Society of Range Management, and several Indian tribal councils.

T. L. Meredith, president of the Arizona Association of Soil Conservation Districts, thinks sponsoring the Arizona Youth Conservation Camp is one of the most important activities of the association. "We want to expand it to reach more boys and in the near future set up separate camps for girls. We think we have something real good going and we want to see it grow."

What do the campers themselves think? Boys attending react pretty much the same—they praise the experience and talk of it for weeks to their parents and friends. A typical way of putting it: "I learned more in that 1 week than I did during all last school year."

An exaggeration perhaps—but it points up that the camps are "something special" to Arizona boys. ♦

Serving up the evening meal to a hungry group is nothing new to camp cook Glen Ellison, a long-time cowboy chuck wrangler.

A Farmer's Nature Trail

New York conservationist attracts wildlife and invites people to enjoy it

By Frank Leavitt
Work Unit Conservationist, SCS Delmar, N.Y.

MORE than 3,000 people have walked the nature trail that is open to the public on the farm of New York Farmer-Conservationist Burton Belknap.

The trail starts on the dike of a pond and meanders up a hill through a plantation of larch, scotch pine, and spruce, and into a wooded area of mixed hardwoods and hemlock. It cuts through a lime rock crag, and back to the pond. Painted arrows mark the trail and signs point out the different kinds of trees, shrubs, flowers, bird nesting places, and animal habitats along the way. Commissioner Harold Wilm of the New York State Conservation Department cut a grapevine to officially open the trail in the summer of 1959.

Rod and Gun Club Helps

The nature trail is a joint effort of Mr. Belknap and the Turnpike Rod and Gun Club of Westmere which is established on the 153-acre farm, located about 9 miles from Albany.

Mr. Belknap is a former assistant supervisor of rural education with the New York State Board of Education and is the author of several books.

Since moving to his farm in 1937, Belknap has campaigned for wildlife protection and a greater appreciation of nature. At first, he posted his property with "No Hunting" signs, then established rules for hunters who asked permission to use his property. Eventually, the "No Hunting" signs were removed and posters marked "Safety Zone" were placed around the farm buildings.

In 1949, Belknap became a cooperator with the Albany County Soil Conservation District. The following year, in cooperation with the district and the New York State Conservation Department, he planted 10,000 trees. The next year he planted 10,000 more trees.

Plantings for Wildlife

In some areas of the farm, natural reforestation of white pine has taken place. About 80 acres of once open land has grown to clumps of maple, dogwood, and other native shrubs. Club members have planted open areas with strips of corn and buckwheat to supply food for game birds. And, they have planted shrubs for wildlife use in cooperation with the Soil Conservation Service.

In the fall of 1949, Belknap received SCS technical assistance in building a small pond. At this pond the nature trail begins. Along the edge of the pond he planted a hedge of multiflora rose supplied by the soil conservation district in cooperation with the New York State Fish and Game Department. Numerous birds nest there.

When, in the mid-1950's the Turnpike Rod and Gun Club arranged to lease Belknap's property, the objective was to promote public interest in nature and good sportsmanship among hunters. That objective has been realized. Only Mr. Belknap's "Safety Zone" signs remain to caution hunters.

The club has a junior membership for boys and a strong program of family activities. ♦

Commissioner Harold Wilm of the New York State Conservation Department cuts a grapevine to officially open the nature trail of the Turnpike Rod and Gun Club. Farm Owner Burton Belknap is second from left, wearing the cap.

Pheasant Hospitality Association Welcomes Hunters to Plains

By Thomas J. Skillman
Work Unit Conservationist, SCS, Yuma, Colo.

TAKING in visiting hunters for room and board was a new—and some thought crazy—idea to the farmers of the Yuma, Colo., area a couple of years ago. Now it's a going enterprise of the Yuma Pheasant Hospitality Association under the sponsorship of the Yuma Soil Conservation District.

Seven farm families were in the program the first year of its operation in 1963. They kept 36 hunters during the season and grossed approximately $63 per farm family.

The association grew in 1964 to 20 families which kept 125 hunters and grossed approximately $69 per family. Participation is expected to double in 1965.

The hunters came mostly from the Denver, Boulder, and Colorado Springs areas. Assistance from radio, TV, newspapers, and the Colorado Game, Fish, and Parks Department was helpful in getting the word out to the sportsmen.

There were many reasons for an association of this kind to get started: (1) There was a need for better understanding between landowners and sportsmen, which it was hoped the association could develop; (2) landowners needed encouragement to develop better pheasant habitat, which would increase pheasants and improve hunting; (3) landowners needed an additional source of income; and (4) increasing numbers of hunters coming to eastern Colorado each year were taxing the facilities of local motels, hotels, and cafes.

The sponsorship of the Yuma District enables the infant association to get enough financial backing to operate. A 5-member board of directors, appointed by the supervisors of the soil conservation district, makes plans and directs the association.

Home-cooked food rivals the hunting as an attraction for the city sportsmen and their families.

Bob Bruggeman (l.) welcomes the returning hunters on his farm: Young Oishi (shaking hands), Samuel Miller, Dr. Y. Oishi, and Jerry D. Punkett.

The Colorado Game, Fish and Parks Department provided more than 35,000 trees through the conservation district for planting in windbreaks and wildlife areas.

The participating families had nothing but praise for the visiting hunters and all say they plan to continue the operation. The hunters were highly satisfied and some plan to bring their families back another time.

One Boulder, Colo., man said: "I firmly believe in your type of operation. Let's give a fair share of the pheasant crop where it belongs—to the private landowners. In addition, my son and I are intrigued with the idea of staying out on the farm. I wish you best of luck with your venture."

An outgrowth of the Yuma Pheasant Hospitality Association could be a full-scale vacation farm enterprise for this plains county. Some families are thinking about it right now. ♦

At Hancock's Bridge . . .

Watershed Project Turns the Tide

Town and farm leaders work together to protect historic New Jersey community

INCREASED wildlife harvests and revived truck farming have replaced flooded fields around Hancock's Bridge, N. J.

To landowners in this newly protected 5,590-acre watershed, the change means final victory over a 150-year flood hazard and the return of prosperous country living to their historic Salem County community.

Gale-driven Delaware Bay tides had buffeted the community since early pioneers first settled the area. Tides were diked out of fertile farmland and muskrat trapping marshes. But in passing decades, the hand-built seawalls were topped or breached annually by powerful coastal storms. Constant repairs drained the villagers' finances.

In 1955 a hurricane dealt the community a near-fatal blow when waves blasted a 90-foot breach in the dike. Five months later, in the midst of a $16,000 dike-repair job, a second storm smashed the new dike. It left a gaping hole in their seawall and no money for repairs. Crop fields and pastures became briny fisheries. Homes and roads were swamped by high tides. Muskrats abandoned their flooded habitat for more stable marshy feeding areas. The entire community floundered in an economic doldrum while brackish floods covered its valuable land with each tide change.

A Dramatic Change

The dramatic change from this devastation to a thriving economy started in 1957 when the Salem-Cumberland Soil Conservation District and two local farm organizations—Thorofare and Locust Island Meadow companies—sought technical and cost-sharing aid under the Watershed Protection and Flood Prevention Act (Public Law 566). The proposed 5,590-acre Silver Lake-Locust Island Project quickly became the first of its kind in New Jersey and the first, nationwide, to receive Farmers Home Administration watershed loan financing.

The protection plan, prepared with Soil Conservation Service technical aid, provided for more than 3 miles of dikes to be built around the watershed. They were designed to withstand tides 3 feet higher than any on record. New gates were built to halt incoming

The village of Hancock's Bridge is surrounded by water and depends on dikes to block out Delaware Bay tides.

Tide gates like this one on Silver Lake Dike keep tidewater out and let excess water out at low tide.

tides, and then open automatically to allow normal fresh-water drainage, and control water levels in the watershed. The project was completed in mid-1962.

Primary Aims

"Restored farm incomes and the return of profitable muskrat trapping were the primary aims of the watershed project," notes Hugh Watts, SCS work unit conservationist in Salem County. "The community has already found overseas fur markets. Growing demands for pay-as-you-hunt areas have pushed the benefits well above the predicted estimates."

John Pancoast added several hundred dollars to his income by renting hunting rights for his land to a sportsmen's club. This is

Center of the flood problem was a 200-foot gap in the dike (above) caused by a hurricane. Rebuilding the dike (below) was a major step in the watershed project.

only one of several similar farmer-sportsman projects in the watershed. Three landowners in the Silver Lake part of the watershed have built duck hunting blinds in their marsh holdings. One operator rents 10 blinds for $100 to $125 each a season. With demands for blinds increasing yearly, other landowners plan to enter the business next year.

Trapping Thrives Again

Keeping pace with the pay-to-hunt business, muskrat trapping has started to flourish once again. New European fur markets have overtaken shrinking American outlets for the pelts to boost prices up to $2 a pelt. Per-acre trapping incomes, still below preflood averages for the 1,200-acre marsh, will reach $10 to $15 in a year or so, according to local trappers.

New Source of Income

To the pelt income, trappers add 20¢ a carcass from Baltimore wholesale meat markets and from local buyers. A large part of local consumption stems from annual muskrat dinners put on by a local fire department. These attract hundreds of outsiders each fall and winter.

"Some of our better trappers set out 40 to 50 dozen traps and average 100 skins a week during the season," says Lewis W. Fogg, manager of the Thorofare Meadow Company. "This is quite an addition to our local farm-based economy."

On the home farm, Lewis Fogg

Fish (above) were John Pancoast's only crop on flooded farmland.

The rebuilt Silver Lake Dike (l.) weaves through twisted backwater streams below Hancock's Bridge.

Lewis Fogg (l.) and Hugh Watts of the SCS (r.) look over Fogg's harvest of common reed hay on a formerly flooded field.

Better muskrat harvests (below) draw visitors to the annual fire house dinners.

Edward Fogg's tomato harvest is an example of the renewed farming activity around Hancock's Bridge made possible by flood protection.

has found a new source of income related to improved water-level control in the watershed.

"A 15-acre field along the edge of Silver Lake was always too wet," says Mr. Fogg. "This year we were able to get on the land to cut an average of 100 bales an acre of common reed (*Phragmites*). The grass is cut early and is ideal for bedding. Also, it has a protein content comparable to alfalfa. We sell it for $1 a bale, and there's a big demand for it in this area. Besides that, we trap a number of muskrats on that same land in the winter. That's what I call good land use!"

Hancock's Bridge found a real community benefit with watershed protection. Mosquitoes, the plague of Jersey lowlands, are being exterminated. Nine miles of mosquito-control ditches are being dug in the watershed by county health authorities. Ditches and spray applications were impractical under previous flood conditions.

As manager of the Thorofare Meadow Company, Lewis Fogg cites an interesting financial feature of the $35,000 FHA watershed loan.

"Members of our company are assessed for our mutual land improvement costs," Mr. Fogg explains. "In past years our tax rate had gone as high as $20 an acre. Now, even with the payments of the FHA loan, our assessment is down to $2 an acre. Dike repairs that cost us plenty each year are not needed. Maintenance is a small item with the watershed protected, so our assessments are down."

More Land Treatment

Conservation land treatment, an important part of watershed planning, has already exceeded minimum requirements of the watershed plan, says Conservationist Watts. Farmers, profiting from flood-free dependable crops, are investing more money each year in conservation measures. Erosion control is a big factor in maintaining the new ditches. These conservation efforts are also building land values and the community's economy.

The project's ability to hold off storm tides and floods has already been tested. Two storms, both nearly equal to the disastrous 1955 hurricane, failed to top the new dikes. Farmland, wildlife marshes, and Hancock's Bridge were protected in both cases.

Folks at Hancock's Bridge look forward to even greater area development of the land, water, and wildlife resources as the key to flood-free community prosperity. ♦

Plants for Shooting Fields

The following plants are recommended for shooting fields in the Northeast and Corn Belt. Sudangrass, sorghums, corn, millets, buckwheat, soybeans, domestic grasses, switchgrass, Reed canarygrass, sericea lespedeza, and shrubs. Since row planting of sudangrass, sorghums, corn, and switchgrass may encourage undesirable running by pheasants, crossrow drilling or broadcast planting at the ends of strips is recommended. ♦

Many New Landowners and Farmers Plant Shrubs for Wildlife

By **David N. Allan**
Biologist, SCS, Durham, N. H.

PLANTING shrubs in New Hampshire, which is about 85 percent wooded, is like "bringing coals to Newcastle." But with people moving out into the country a renewed interest in nature and wildlife is growing, and many shrubs that were weeds to the farmer are a thing of beauty to new landowners. Farmers, too, are spending more and more time on wildlife preservation.

In conservation planning excellent wildlife habitat can be created by using materials close at hand. These species are already adapted to the area, and by knowing the soil and moisture needs of plants transplanted from the wild, the landowner can do much to improve his property.

New Type of Landowner

The Marshall Daltons of Sharon, examples of the new type of landowner, built a new home in an old hayfield overlooking Mt. Monadnock. Having an interest in birds and a desire to retain a natural setting, they turned to their woods.

They landscaped their home with highbush blueberries as a foundation planting and white birch and red pine for contrast of color. The blueberries feed the birds in summer and the pine provides shelter in winter.

For year-round color and wildlife food, they produced specimen shrubs from small whips of alternateleaved dogwood and mountain holly that had been mulched and fertilized, and they carefully pruned and fertilized a large clump of staghorn sumac. The result: Dogwood bursting in a mass of white blossoms in June; mountain holly covered with scarlet fruit by August; sumac, a weed to many people, brilliant with red foliage in the fall and offering its fruit to passing birds in the winter.

The Daltons planted native highbush cranberry around their small farm pond. Its red fruit hangs on well into the winter months to serve as a crash diet when wildlife food is scarce. By cutting out competing trees and fertilizing, they have released old apple trees, nannyberry, and other shrubs. The fruit crop thus produced is terrific.

Another new landowner, the Winthrop Browns on Jarmany Hill, restored an old Cape Cod farmhouse. By selective cutting and releasing in their woodland, they encouraged the shrubby undergrowth and increased the bird

SCS Work Unit Conservationist Johnson for the Hillsborough Soil Conservation District holds some of the fruit from highbush cranberry planted for wildlife around Jeff Smith's stock pond.

Fenced stock pond has been improved for wildlife by shrub plantings. Rotated pasture is in background.

population. From Mrs. Brown's interest in the preservation of wildlife, flowers also have been increased or introduced. The Browns have developed a series of trails through their woods for bird watching and the study of native plants.

Shrubs Around the Pond

Around a pond they planted native shrubs and trees and along one side a wildlife border of autumn olive, a tatarian honeysuckle, and highbush cranberry. Here they can see the yellow flash from a warbler nesting in the shrubs or the splash of a rising trout and hear the song of a wood thrush, or they can see the print made by a deer coming down to drink or the spot where a coon has washed its meal.

Jeff Smith of Hollis has sold the dairy end of his farm to his nephew Robert Hackett and has taken time from a busy life to plant shrubs, put up bird houses, and generally care for the wildlife that comes to make a home there. In practicing good soil and water conservation he has built his land into a top winner in the State Green Pastures Competition. Also from excellent wildlife management he has openland birds and animals in alfalfa and stripcropped fields; brown thrashers, catbirds, yellow warblers, song sparrows, flycatchers, and many other birds in 2,500 feet of living fence; and for pheasants, rabbits, squirrels and birds he has fruits in winter.

Outdoor Schoolroom

Along one cattle lane next to a new high school Mr. Smith planted native dogwoods and viburnums. This lane has served as an outdoor schoolroom. Groups such as garden clubs, bankers, and soil conservationists have visited the area to study conservation and wildlife.

In his 155-acre woodlot he carries out a program of continuous management. He girdled wolf trees and left them for dens, group-cut mature pine to provide food for grouse and deer, and released wild apple trees for food. He planted shrubs around waterholes used for fire protection and by ducks and other shorebirds. A den tree on the shore of his farm pond shows the work of pileated woodpeckers.

These soil conservation district cooperators with the Yankee spirit of "make do with what you have," plus the use of introduced shrubs, have established attractive wildlife practices on their land. Both man and wildlife have benefited from their effort. ♦

Wildlife and Natural Resources Conference Is Conservation Forum

The challenge of "Statesmanship in Our Changing Environment" is the theme of the Thirtieth North American Wildlife and Natural Resources Conference in Washington, D .C., March 8 to 10.

Conservationists from the United States, Canada, Mexico, and other countries look to this annual event as one of the major forums for discussing a wide range of conservation problems, according to Lawrence V. Compton, head biologist of the Soil Conservation Service. Several SCS biologists and Administrator D. A. Williams are participants in the program.

The conference opens with a general session on "Public Responsibility for Resource Policy." Following this are 6 technical sessions on significant developments in wildlife management and research. A concluding general session on "Today's Opportunities—Tomorrow's Needs," features techniques and philosophies that may help assure future generations of adequate natural resources. In all, more than 45 speakers are scheduled to address the conference.

This international conference had its origin in the American Game Conferences, first held in 1915. In 1936, President Roosevelt called the history-making North American Wildlife Conference, and this annual meeting of conservationists was continued under that name for a quarter century.

To better indicate the wide interest of the persons who participated, its name was changed in 1960 to the North American Wildlife and Natural Resources Conference.

Although wildlife continues to receive major consideration, the conference is concerned with soil, water, forests, and related conservation fields. Each year the program is developed by a committee representing major conservation organizations of the continent. ♦

Ohio Agency Gives Wildlife Award

THE Ohio Division of Wildlife has begun an annual Wildlife Conservation Award Program to honor farmers for outstanding contributions in providing recreation to sportsmen and in fostering good will between farmers and sportsmen of the State.

Selection of winners is based on the level of wildlife management practices applied and availability of hunting and fishing.

One of the five winners for 1964 was Lyn Newnham, a Holmes Soil and Water Conservation District cooperator and supervisor for 12 years. Newnham's farm conservation plan, developed with help of the Soil Conservation Service, includes many measures for improving wildlife food and cover.

Newnham was one of the first in Holmes County to sign an agreement with the Ohio Division of Wildlife to permit hunting on his land, and the first to permit quail hunting.

Governor James Rhodes, in awarding a silver bowl to Newnham, said: "This is one of the outstanding examples of what farmers can do to provide hunting and fishing opportunities for nonfarm people. Newnham has done an outstanding job of maintaining and improving his land and developing food and cover for wildlife. We would like to see more just like this in each county in the State of Ohio." — ADRIAN ACHTERMANN, *Work Unit Conservationist, SCS, Millersburg, Ohio.*

A Shooting Field

The best site for a shooting field is an open area of 25 to 75 acres with level to gentle slopes and fertile soil. Cover plants for upland game birds are essential but food plants are of little importance, says "How To Plan a Shooting Field in the Northeast and Corn Belt" (USDA Agr. Leaflet 532). ♦

Contour stripcropping, crop rotation, and field consolidation are visible on the 75-acre vocational agriculture conservation area at Moravia, N. Y., as instructor and students prepare for corn planting.

Moravia Students Learn Conservation On School Demonstration Farm

STUDENTS at Moravia, N.Y., Central School are learning about land and water conservation practices just by attending regular classes each day.

On the school grounds and through their classroom windows, the students see crop rows in contour strips, examples of crop rotation, well-managed waterways, and improved woodlands. Teachers explain that these features protect the school grounds from erosion and flooding, protect the soil, water, woods, and wildlife, as well as provide beauty to the landscape of the 75-acre area.

An Outdoor Laboratory

The conservation program at Moravia Central provides an outdoor laboratory for vocational agriculture, biology, and earth sciences classes.

Leader in this program to better acquaint the youth of Cayuga County with the natural phenomena at work around them and man's role in conserving the land is Charles F. Whiteman, head of Moravia's vocational agriculture department.

Whiteman and Charles R. Barnett, SCS work unit conservationist, planned and developed the demonstration area of coordinated conservation practices. Students helped in the 3-year effort.

Whiteman feels that experience with the conservation project has been vitally important to the farm-oriented young men. And, the managed property has given the local chapter of Future Farmers of America space to multiply their activities.

Planning under Barnett's guidance was based on examination and mapping of the soil and its needs. From this information, students

Moravia's vocational agriculture teacher, Charles F. Whiteman (l.), and students Bruce Langerlan and Leigh O'Connor rig up a "clodbuster" in preparation for corn planting on the school's conservation farm. The new elementary school is visible in the background.

gained an understanding of subsequent changes in land use, vegetative and mechanical treatments, and the measures required to get the area into top production.

Water control had top priority. Students helped to build a complex system of tile drains and sod waterways and open ditches. Measures such as filter strips of hay and grain and debris-dams furished an object lesson in controlling erosion.

Students have been kept busy in the school's machine shop, repairing and altering equipment to use in larger consolidated fields developed by removing old hedge rows and obstructions.

Whiteman and Barnett point proudly to contour strips, diversion ditches, and grassed waterways on surrounding farms in the Cayuga Soil and Water Conservation District that can be traced to students who worked on the school project.

Whiteman believes the boys have benefited greatly by their participation in local, State, and Federal agency conservation programs. They learned what each agency has to offer, and the requirements to qualify for acreage allotments, credit, and cost-sharing.

Meanwhile, Moravia school children are learning that their town, county, State, and Nation really do care what happens to America's most precious resources. ♦

Grange Tour Shows Conservation

MORE than 750 eighth grade students and their teachers in the Flathead Soil and Water Conservation District in northwestern Montana have completed another successful Grange Conservation Tour. Each year, since 1952, the eighth grade groups have had the chance to see soil and water conservation at work on the farm and ranch lands of their community.

The students learn how the area's soils can best be used and protected. They learn about irrigation and keeping water supplies pure. And they learn that soil, water, and wildlife conservation is as important to those who live in the cities and towns as to those who live on farms and ranches.

The Flathead District, the county Extension Service. the Forest Service, the Montana State foresters, and the Montana State Fish and Game Department provided instructors on this tour.—LEWIS FULLER, *Work Unit Conservationist, SCS, Kalispell. Mont.* ♦

Bluestem Grass In a Black Wrapper

"JUST marketing bluestem grass in a black wrapper" is the way Paul Seeley, Jr., manager of the J-Bar-J Ranch near Eureka, Kans., looks at their conservation ranching operation.

The 9,000-acre ranch with its Angus cowherd, owned by D. R. Lauck, is a model of range and livestock management under a conservation plan in the Greenwood County Soil Conservation District.

A program of light stocking and deferred grazing in summer, based on a range inventory made with the help of SCS, restored the bluestem grass from the depleted condition when Seeley became manager in 1956.

Good grass management is essential to herd improvement, Seeley says.—SY EKART AND LEO BROWN, *Soil Scientist and Soil Conservationist, Eureka, Kans.* ♦

Preservation of Wildlife

In all its activities, SCS seeks to avoid unnecessary damage to wildlife and to favor the increase of beneficial species as a corollary result of land use and soil and water conservation practices. ♦

Larger School Properties Provide for Outdoor Laboratories

A trend toward larger sites for school buildings is bringing new opportunities for outdoor education and new demands for conservation assistance on school grounds.

Public school officials and the Soil Conservation Service in many places are recognizing these opportunities and are working together to take advantage of them.

As a result, schools that formerly had to haul children by bus to outlying parks and natural areas for outdoor instruction now are using outdoor laboratories right on their own grounds. In so doing, they avoid loss of valuable time of teachers and students, the expense of transportation, and the complications of necessary insurance and safety precautions.

50 Acres and Up

Entries in the annual School Building Architectural Exhibit of the American Association of School Administrators show that school officials are buying larger sites each year. In the 1964 entries at Atlantic City there were 31 schools with sites of 50 to 100 acres, 12 schools with sites of between 100 and 200 acres, and 2 junior college sites with 247 acres and 400 acres, respectively.

This trend is continuing. Here are some of the entries selected in the 1965 School Building Architectural Exhibit: Senior High School, Oneonta, N. Y., 130 acres; Alpena Senior High School, Alpena, Mich., 80 acres; Starmont High School, Strawberry Point, Iowa, 80 acres; Colerain Senior High School, Cincinnati, Ohio, 58 acres.

Schools are buying these larger sites even though prices of land have gone up. They are buying them in the face of considerable difficulty because of the increasing competition for land by urban developers.

It is interesting to compare the size of school sites now with that recommended by the American Association of School Administrators in their 1949 year book, "American School Buildings." Quoting from that book; "Most school sites are too small. Larger areas are necessary, because of the continued expansion of education-programs . . . The following site areas are suggested as a minimum: (a) For elementary schools, 5 acres plus an additional acre for each 100 pupils. Thus an elementary school of 200 pupils would have a site of 7 acres. (b) For secondary schools, 10 acres plus an additional acre for each 100 pupils. Thus a high school of 500 pupils would have a site of 15 acres."

For Outdoor Education

The judging committee for the 1964 School Building Architectural Exhibit pointed out that far too little attention has been given to developing the outdoor education potential of many excellent school sites.

Fortunately the opportunity to plan and manage these larger sites for conservation education and outdoor learning opportunities is not going unnoticed.

In Michigan, the Soil Conservation Service has prepared conservation plans based on soil survey information for many school sites in the same way that it assists farmers. The plan for the 80-acre site of the Gwinn Public Schools is a good example of how a conservation plan can be adapted to a school's needs.

The Gwinn conservation plan includes a woodland with trails to serve as a day camp location. It includes a wildlife area with a pond for aquatic life study and a bog garden for identification and collection of bog and marsh plants and associated animal life for nature study, biology, and conservation. A windbreak protects the area on two sides. This is only one of many such plans.

SCS Helps Educators

Allan Collins, State Conservationist for SCS in Michigan, has instructed his field staff to give assistance to school boards and others. Requests are forwarded to the State Office for review. A subcommittee of the Conservation Education Committee of the State Department of Public Instruction met with Mr. Collins' staff, and at that time informal agreement was reached to provide SCS technical assistance to schools for conservation planning.

Clarence Engberg, State Soil Scientist, SCS, has been serving on the Conservation Education Committee of the Michigan Department of Public Instruction.

Dr. Shirley Cooper, Director of Inservice Education, American Association of School Administrators, said recently that schools everywhere will welcome SCS help in planning school sites.

"We know" he said, "that there are natural areas on these sites that should be left undisturbed and that the conservation of the soil, water, woodland, and wildlife resources must be planned. We in AASA have persuaded schools to buy bigger sites and now they don't always know what to do with them. We know that conservation education, nature study, and other outdoor learning activities are needed in the school program. Here is our opportunity to establish the basis for this right on the school property. We must not miss this chance. ♦

State Reformatory Is Site of Unique Pipeline

THE Colorado State Reformatory for young men, situated in the heart of the Rocky Mountains, is the site of a unique irrigation system. Water for 650 acres of fertile reformatory cropland must be piped across the Arkansas River on its way from Cottonwood Creek, a tumbling mountain stream.

When the system was first developed, irrigation pipe spanned the Arkansas on a wooden bridge that had once been a road crossing. The pipe, an inverted siphon, carried the water from the creek down a long slope across the bridge and up a hill on the outlet side.

Today's engineers would have condemned the makeshift arrangement, but it served the purpose for many years until the bridge timbers began to rot and maintenance became expensive and dangerous.

Cables and piles in various arrangements were installed to support the bridge, but by 1959 the structure had deteriorated to the point where it seemed on the verge of collapse.

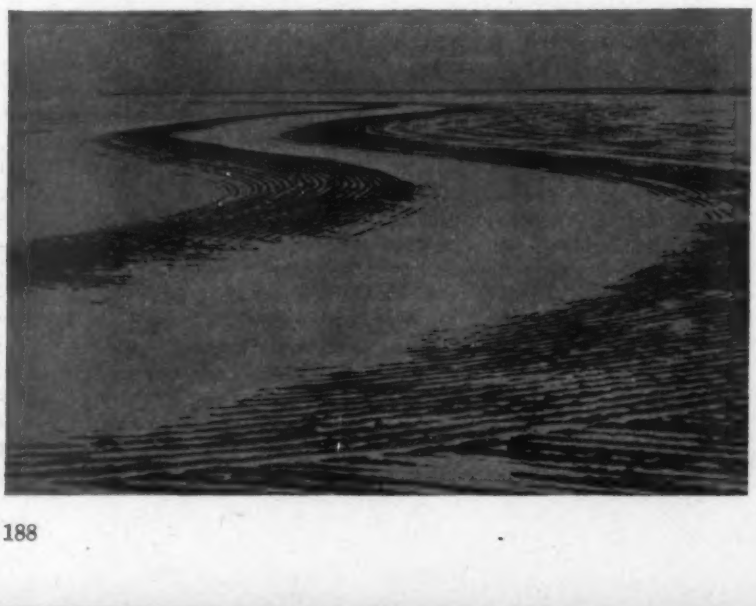
Contractor Irving W. Avery, of Buena Vista, began construction of the siphon in April 1963 after SCS engineers completed field surveys to select a site for the new structure.

It took a month to complete the siphon. It required 66.7 cubic yards of reinforced concrete to support the 378.5 feet of pipe spanning the river at an elevation of 22 feet above the water.

Reformatory officials are confident the new system will solve their irrigation problem for many years and enable the farm-livestock operation to make a contribution in the rehabilitation of inmates.—A. G. CROOK, *Work Unit Conservationist, SCS, Salida, Colo.*

A Great Plains Snowscape

Effectiveness of conservation practices in holding precious moisture uniformly on Great Plains cropland is shown by this photo of a terraced and contoured field after a light snow. The owner, Gilbert Bollwinkel, of Burlington, Colo., is a cooperator with the Burlington Soil Conservation District. His 3,680-acre farm is covered by a Great Plains Conservation Program contract.



Litterbugging

ONE of the most popular activities engaged in by 99 percent of the entire population of the United States is known as *Litterbugging*.

It is usually engaged in while driving for pleasure. Other than a car, an open road, and the beautiful outdoors, no particular equipment is required. An empty beer can is most helpful. It is believed by some that the beer can is the most useful equipment of the carborne Litterbugger.

Income has no bearing on participation in the sport of Litterbugging. It has been reported that those driving Cadillacs and Continentals are as active as those driving Fords.

Urban areas, rural areas, and large cities, national parks, national forests, State parks, and State forests are all equally excellent sites for the sport of Litterbugging.

It is not necessary to have a car to participate. A city street and a stick of gum can help the Litterbugger in the city areas.

There does appear to be a small segment of the population of the United States that is trying to suppress the sport of Litterbugging. They are going so far as to have laws passed that will fine Litterbuggers.

But Litterbuggers are smart; they don't usually get caught. That small segment of the population attempting to wipe out the sport of Litterbugging is even using the media of television and radio in their campaign.

Who knows, maybe they will come up with a pesticide that will stamp out Litterbuggers. It might be known at *Littercide*. — Mrs. HELEN GUTHRIE, *Branch of Land Operations, Bureau of Indian Affairs.*

◆

One of the most neglected tools in farm business is records.

SCS Has Unofficial Role Under Economic Opportunity Act

Although the Soil Conservation Service has no direct responsibility under the Economic Opportunity Act, its personnel share an obligation to help wherever possible to carry out provisions of the act.

This was the concensus from participants in the 22d annual conference of the Professional Agricultural Workers Association meeting at Tuskegee Institute in December.

The conference theme was "Implications and Implementation of the Economic Opportunity Act of 1964." Participants included speakers from the Office of Economic Opportunity, the Department of Labor, and several agencies of the Department of Agriculture.

Setting the keynote on SCS responsibility in the new poverty program was Herschel E. Hecker, assistant to the associate administrator.

According to Hecker the broader aspects of the act provide an opportunity for each individual to make a contribution.

SCS will work with soil conservation districts in total community planning to eliminate poverty, said Hecker. He cited Title I, part B of the act, under which soil conservation districts can offer training situations which would put local youths to work and provide work experiences that would make them employable.

Title II was described as an opportunity to use soil and water resources as a foundation around which a sound community action program can be developed.

Other conference speakers noted the close relationship of SCS work unit conservationists with local rural people. The SCS conservationists might play a valuable communications role between the Office of Economic Opportunity and "boxed-in" rural folk who have no hope of economic improvement and who otherwise might be overlooked.

The Department of Agriculture gets specific responsibility in this program under Title III which provides for small loans and grants to poor rural families. The Farmers Home Administration is responsible for its administration. ♦

Scouts Get Conservation Lessons

Boy Scouts at Camp Salmen clean out an old swimming area on Bayou Liberty which they will fertilize and stock with fish. The Scouts are earning their merit badge in soil and water conservation.

BOY Scouts in the New Orleans Area Council are learning the importance of soil, water, and wildlife conservation through the cooperative efforts of Scout Counselor Jim Whelan and SCS Work Unit Conservationists Stafford Thibodeaux, Neil Bullock, Jim Loe, and Zeke Williams. Scouts who learn their lessons well earn a merit badge in soil and water conservation.

Their "classroom" is Camp Salmen, a 150-acre tract across Lake Ponchartrain from New Orleans. Last summer, the Scouts cleaned up an area along Bayou Liberty. They plan to fertilize it and stock it with fish. The Scouts have mulched eroded land, built check dams, and improved the grass cover at the camp.

Many New Orleans boys are learning to appreciate the value and beauty of their region's natural heritage while enjoying the outdoor life at Camp Salmen.—JOHN M. CROSS, *Assistant State Conservationist, Alexandria, La.* ♦

Louisiana Honors Conservation Teachers

A program of recognizing teachers for relating conservation of natural resources to the subjects they teach is conducted by the Louisiana Association of Soil and Water Conservation District Supervisors.

Winners for 1964 were honored at the association's annual meeting in January. First award of $100 cash and a plaque went to Mrs. Juanita Sommers, Baton Rouge.

Mrs. June Moore, Midland, and Mrs. Ruby Blaylock, Bastrop, tied for second. Mrs. Delores Sapp, of Start, placed third. They received plaques.

Wildlife Management and Conservation. By James B. Trefethen. *1964. D. C. Heath and Co., Boston. 120 pp. $1.26.*

Because much of our wildlife makes its home on privately owned land, farmers and ranchers have reason to know that there are people and agencies concerned with the management of this natural resource.

Since they are producers of wildlife, many landowners have felt that they would like to know more about its management. But it has not been easy for the nonprofessional to obtain such knowledge.

There are numerous textbooks on wildlife management, but all are lengthy, detailed, and a bit expensive. There simply has been no easily available, short, simply written statement of the reasons, objectives, and principles of managing wildlife. This little book by Trefethen is that kind of a statement. It consists of 6 short chapters, each of about 20 pages.

The first chapter outlines the historical background of modern wildlife management. Chapter 2 discusses habitat, how each kind of wildlife requires a specific kind of habitat, and how the wildlife manager goes about developing habitat for a desired kind of wildlife. Chapter 3 treats of wildlife populations, and chapter 4 describes research findings and their applications. Chapter 5, with the title of "Tools and Panaceas," discusses the uses and misuses of several time-honored wildlife management techniques, including stocking, winter feeding, and wildlife refuges. In the short, final chapter of the book, the author tells how extinction faces many wild species throughout the world and of the heroic efforts being made to save them.

This book is a clear exposition of a complex subject and is offered at a bargain price. I recommend it to anyone interested in wildlife. —Lawrence V. Compton, *Head Biologist, SCS.*

Natural Resources For U. S. Growth. By Hans H. Landsberg. *1964. The Johns Hopkins Press, Baltimore. 260 pages, charts; paper. $1.95.*

This paperback book summarizes a study of America's resource needs to the year 2000 and of the supplies available to meet the demand. It is a neat digest of Resources for the Future's 1,040-page study of demand and supply prospects for the next 40 years, "Resources in America's Future." Much of the information is shown in charts, graphs, and diagrams for easy and quick comprehension.

Discussed under future requirements are such items as the kinds of food expected to be used, fibers, construction, durable goods, metals, paper, forest products, and the uses of energy. Then the adequacy of water, land, energy, and nonfuel minerals to meet future demands is appraised. The final chapter, "Some Major Issues of Policy," summarizes the problems involved, where shortages are likely to occur, and where conscious developments are needed.

This book provides a broad understanding on how our natural resources are interdependently utilized for the benefit of all the people. It will be useful to conservationists, economists, physical scientists, plant scientists, and all who are interested in the best available data bearing on U. S. growth. —T. A. Neubauer, *Resource Development Division, SCS.*

New Publications

What Is a Ranch Conservation Plan? By The Soil Conservation Service. *1964. USDA, PA-637. 8 pp., illus.* Some of the things for the rancher to do in preparing his ranch conservation plan are: (1) Appraise the soil, water, plant, and animal resources on the ranch; (2) identify soil, plant, and water problems and opportunities for improvement; (3) consider alternative land uses and conservation treatments; and (4) evaluate the costs and benefits of alternative treatments. The leaflet describes the assistance available from the SCS, through local soil conservation districts, in making a plan to suit an individual ranch. It gives an example of a ranch conservation plan and itemizes the benefits ranchers have reaped by following such plans.

Threads of Life. By Committee on Educational Policy in Agriculture. *1964. National Academy of Sciences—National Research Council. Washington, D. C. 16 pp.* This attractive brochure tells of the need for more agricultural scientists in the future. It tells how a young person can pursue such a career through knowledge of the basic biological sciences. Written for talented high school students and their advisers, the booklet is available only from colleges, schools, and departments of agriculture in institutions of higher learning.

County Action for Outdoor Recreation. *1964. National Association of Counties and Citizens Committee for the Outdoor Recreation Resources Review Commission Report, Washington, D. C. 48 pp., illus.* Opportunities for action by local units of government, reviewed here in terms of counties, are similarly open to soil conservation districts.

Salt Tolerance of Plants. By Leon Bernstein. *1964. USDA Agr. Inf. Bul. 283. 23 pp., illus.* Information on measuring salinity, its effects, and management in relation to salinity control.

Winds Over Wildlands—A Guide for Forest Management. Compiled by Charles C. Buck. *1964. USDA Agr. Hdk. 272. 33 pp., illus.* Well-illustrated publication on wind behavior.

Resource Requirements on Farms for Specified Operator Incomes. By Harold E. Barnhill. *1964. USDA Agr. Econ. Rpt. 5. 55 pp., illus.* The revised report includes analyses for major types of farming in the 15 areas described in the previous report and for 14 additional areas.

First Aid for Flooded Homes and Farms. *1964. USDA Agr. Hdk. 38. 28 pp., illus.* Hints for clearing, rebuilding, and reducing losses caused by floods.

Pondweeds and Pondweedlike Plants of Eastern North America. By Neil Hotchkiss. *1964. U. S. Dept. Interior Circ. 187. 30 pp., illus.* First of a series of publications on the field identification of the marsh and water plants of Eastern North America. ♦

From the Administrator:

Farm Game • Conservation Districts Wildlife for Everyone

AGRICULTURAL land of the United States produces a wildlife crop commonly referred to as "farm game": the squirrels, rabbits, quail, pheasants, doves, and other species commonly hunted on farms and ranches. These kinds of wildlife are generally favored by soil and water conservation practices carried out by cooperators in soil conservation districts and can be further increased by specific wildlife management measures.

I am told by wildlife biologists and administrators, however, that the management of farm game on a statewide or regional basis is one of their most perplexing problems.

Reliable techniques for increasing specific kinds of farm game have been known for years. And these management measures are being used by interested land operators on thousands of individual farms and ranches. The problem is to get them applied over large areas involving many and varied ownerships.

This is not a new problem in wildlife management. It was recognized many years ago, but practical ways of tackling it have only recently become available. The first requisite is to provide the landowner with incentives to have more wildlife and to want to make it available to the public. Paying him for the privilege of hunting on his land appears to be this kind of incentive. At least it is being tried in more and more States and many game officials are watching its development with hope.

Paying the landowner for the right to hunt on his land has several practical benefits: (1) It increases hunter opportunities by opening lands that otherwise are posted against hunting; (2) the economic return gives the landowner a reason for practicing game management; and (3) by placing farmer-sportsmen relations on a business-like basis, it reduces the misunderstanding and distrust that too often have prevailed between the hunter and the farmer.

Fully developing this or any other means of obtaining game management on privately owned lands calls for increased efforts and closer cooperation from interested agencies and organizations. More technical information on wildlife management and more encouragement to produce it must get to the producers. The soil conservation district is proving to be an effective medium for this cooperative effort.

SOIL CONSERVATION districts blanket the Nation. There is one in nearly every county and they include fully 95 percent of the farms and ranches. They are the recognized local source of help and information on resource management for landowners and operators.

Most districts look to public and private sources for assistance in preparing their conservation programs and in putting them into effect on individual farms and ranches. Herein lies the opportunity for all agencies, whether public or private, that genuinely wish to aid in the conservation of wildlife.

The Soil Conservation Service is one of the agencies providing technical assistance to soil conservation districts, including guidance in the planning and application of practices that improve wildlife habitat. To assure the highest technical quality in this service, SCS employs wildlife biologists who train the conservationists that work directly with the land operators. In developing, adapting, and applying techniques of wildlife management, SCS biologists work closely with Federal and State wildlife agencies.

The Soil Conservation Service will continue to encourage farmers and ranchers to improve their lands for wildlife production and will continue to seek the cooperation of other agencies in this effort.

WILDLIFE is not for hunters alone. It has many values for many people, and this fact makes every kind of bird, mammal, fish, insect, or other creature that lives on agricultural land of concern to the Soil Conservation Service.

As the Department of Agriculture broadens its objectives to better serve the interests of all people, the guidance SCS provides in the use of natural resources reaches to wider horizons. Our conservationists are as ready to suggest ways to improve the environment for nongame species as they are to aid in producing and harvesting a game crop. And they are finding landowners equally responsive to the challenge of wildlife conservation for esthetic and recreational reasons.

The technology of conservation can serve the finest goals of rural beauty and preservation of nature as well as the practical purposes of wildlife production.

—D. A. WILLIAMS

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Room for Outdoor Learning

Story on page 187

Many schools now purchase large acreages for school sites and prepare a conservation plan with SCS assistance. The Central Montcalm High School at Montcalm, Mich., is located on a tract of 145 acres and the stripcropping in the background is included in the conservation plan. Other practices are tree planting, woodland management, and soil management. The conservation plan provides training for vocational agriculture and other students in practical aspects of conservation. ♦